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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MAKI, STEVEN D	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 10/07/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/806,824	Applicant(s) GERRESHEIM ET AL.
	Examiner Steven D. Maki	Art Unit 1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2) Claims 1 and 4-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the description relating to "lowered" is ambiguous. What is lowered? What has an entire length? In claim 1, it is suggested to change "lowered over an entire length" to --, each tread block edge being lowered over an entire length thereof--.

In claim 5, the scope of this claim is ambiguous since the description of the terms of the exponential function is incomplete and ambiguous. Claim 5 fails to describe / define y and t. The relationship, if any, between the block and y and t is ambiguous. For example: Claim 5 fails to describe grooves wherein the y axis corresponds to tread depth, the t axis corresponds to tread block length and the origin is at the bottom of a groove. The description of "adaptable amplitude factor" is ambiguous and not understood. What makes the amplitude factor "adaptable"? The description of the term b being "the start of the block boundary surface with respect to the tread base" is ambiguous. Does the description of "with respect to the tread base" mean that "the start" is not on the y axis? If not, what not? Is "the start" in claim 5 the same as or different from "the start" in claim 1? In claim 5, the description of "$\tau = 0$" is confusing since such a requirement would place a zero in the denominator of the exponent. Claim 5 further describes "the tangent at the block boundary surface". Where along the S-curve does claim 5 require this tangent made?

The claims contain typographical errors, which should be corrected. For example: "Y-axis" in clam 5 should be --y-axis--. Another example: In claim 7, "follow and exponential function" should be --follow an exponential function--.

Claim 15 is indefinite because the subject matter of "a broken entry edge" therein is inconsistent with the subject matter of "S-curve" in amended claim 1.

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Europe '989

5) **Claims 1, 4, 6, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Europe '989 (EP 602989).**

The claimed tire is anticipated by the tire of Europe '989 which rounds each of the edges of the blocks at the tread surface and rounds each of the bottom groove edges (the claimed lowering caused by the rounding of the block edges at the tread surface). Claim 1 fails to require a shape different from that shown in figure 5. As to the turning point being in the lower one third, the change of direction in the depth direction occurs at the bottom radius instead of the middle depth of the groove. The middle

depth of the groove fails to define a turning point since there is no change in direction at the middle depth of the groove.

Masaoka

6) **Claims 1, 4, 6-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaoka (US 5690761) in view of Europe '989 (EP 602989).**

Masaoka, directed to preventing heel and toe wear, discloses a pneumatic tire having blocks separated by grooves. The ground contacting surface of the block is shaped such that a radius of curvature in the circumferential direction of the tire is smaller than a radius of curvature in the circumferential direction of the tire at the equatorial plane side of the tire. With the radius of curvature of the block in the circumferential direction of the tire being basically smaller than the radius of the outer circumference of the tire, the leading edge portion and the trailing edge portion is lowered. Masaoka shows the block wall connected to the groove bottom via a curve defined by a relatively small radius of curvature. Masaoka does not recite rounding the edge between the block surface and block wall.

Europe '989, directed to reducing conicity force with wear and reducing noise (col. 6 lines 4-8), teaches rounding the transverse block edges using a radius r2 of 0.3 to 3 mm and connecting the block wall to the transverse groove bottom via a curve having a relatively small curvature.

As to claim 1, it would have been obvious to lower as claimed in view of Masaoka's teaching to lower block height toward the edges as shown in figure 1 to prevent heel and toe wear and Europe '989's teaching to round edges of blocks to

increase conicity force and reduce noise; it being noted that (1) each of Masaoka and Europe '989 show rounded groove bottom edges and (2) the turning point (a change in direction) in the S-curve thereby formed is in the lower third of the tread block height since the change in direction from the block wall and the bottom of the tread groove is caused by a radius having a length substantially less than the block height. In other words, the rounded bottom groove edge which defines the turning point is located within the lower third of the block height.

As to the dependent claims, the following additional comments are made: As to claim 6, Masaoka lowers both edges. Claims 4 and 7 read on the lowering being defined by any exponential function. The above applied prior art suggests this subject matter since Masaoka lowering using a curve to reduce heel and toe wear and Europe '989 teaches rounding edges to reduce noise; it being noted that Masaoka teaches at for example col. 9 lines 44-45 that his invention is not limited to a single curvature. As claims 7 and 11, Masaoka shapes the leading end portion and the trailing end portion using different radii such that they slope in different directions. Claims 9 and 10 fail to define a plateau different from that suggested by Masaoka.

7) **Claims 8, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaoka (US 5690761) in view of Europe '989 (EP 602989) as applied above and further in view of Remick (US 5127455).**

As to claims 8, 11, 14 and 15, it would have been obvious to incline the wall of the block of Masaoka at the trailing edge steeper than the side of the block at the

leading edge since Remick suggests inclining the wall of a block at the trailing edge steeper than the side of the block at the leading edge to improve wear / like of the tire.

8) **Claims 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Masaoka (US 5690761) in view of Europe '989 (EP 602989) as applied above and further in view of Japan '907 (JP 3-32907), Europe '557 (EP 367557) or Europe '125 (EP 591125).**

As to claims 12 and 13, it would have been obvious to use the claimed different depths in the tire tread of Masaoka in view of Japan '907's teaching to use different depths for transverse grooves to improve operational stability and secure drainability, Europe '125's teaching to use different depths of transverse grooves to compensate for material which flows into joints between mold segments or Europe '557's teaching to use different depths for transverse groves so that rigidity is made uniform when using pitches for reducing noise.

Allowable Subject Matter

9) **Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.**

The prior art of record (including Masaoka and Europe '989) fails to suggest extending the contour of the tread block boundary surface, having the form of an extended S-curve, in accordance with the specific exponential function set forth in claim 5 in combination with the remaining claimed limitations.

Remarks

10) Applicant's arguments filed 7-23-03 have been fully considered but they are not persuasive.

With respect the 102 rejection using Europe '989 and the 103 rejection using Masaoka, applicant argues that the turning point of the S curve is disposed in the middle of the tread block height, but not in its lower third. Applicant is incorrect. There is no turning at the middle of the tread block height in Europe '989 for the simple reason that there is no change in direction at the middle of the block height. The rounded bottom corner in the axial groove (figure 5) defines the turning point and, as can be seen from figure 5, the rounded bottom corner is clearly in the lower third of the block height.

11) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
October 5, 2003

Steven D. Maki 10-5-03
STEVEN D. MAKI
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733